

**IN THE CLAIMS:**

1-16. (Cancelled)

17. (New) A recording medium used for storing data, the data comprising a digital stream constituted by multiplexing a video stream and a graphics stream, wherein

5           the video stream represents a moving picture made of a plurality of pictures,  
          the graphics stream includes a plurality of Display Sets each being a group of data that constitutes graphics for one screen,

          a leading Display Set among the plurality of Display Sets is of an Epoch Start type,

10           the leading Display Set of the Epoch Start type includes graphics data and window information that specifies a window for rendering the graphics therein,

          the graphics data represents graphics to be combined with the pictures,

          the window information indicates a width, a height and a position of the window on a plane memory of a reproduction apparatus that combines graphics with the pictures, and

15           a Display Set following the leading Display Set is used for rendering graphics within the window.

18. (New) A recording medium according to Claim 17, wherein

          the width and the height of the window are determined based on a ratio between a rate of an update of the window performed by the plurality of Display Sets and a frame rate of  
20   the pictures.

19. (New) A recording medium according to Claim 18, wherein

the width and the height of the window are set so that a size of the window is  $1/x$  of the plane corresponding to a size of each picture, where  $x$  is a real number indicating the ratio between the rate of the update of the window performed by the plurality of Display Sets and the frame rate of the pictures.

20. (New) A recording medium according to Claim 17, wherein

each Display Set includes control data stored in a packet, to which a decode time stamp and a presentation time stamp are attached,

the decode time stamp represents a start time on a reproduction time axis of corresponding Display Set, and

the presentation time stamp represents a end time on the reproduction time axis of the corresponding Display Set and an execution start time for displaying graphics based on the Display Set.

21. (New) A recording medium according to Claim 20, wherein

the graphics stream includes two or more Display Sets of the Epoch Start type, on the reproduction time axis, the window defined by the window information is active between the leading Display Set that is of the Epoch Start type and another Epoch Start type Display Set that is immediately after the leading Display Set.

22. (New) A recording medium according to Claim 17, wherein

if the Display Set following the leading Display Set of the Epoch Start type is a normal case Display Set, the Display set following the leading Display Set includes the control data, but does not include the graphics data and the window information, and

5 the control data included in the normal case Display Set instructs the reproduction apparatus to render graphics within the window defined by the window information included in the Display Set of the Epoch Start type, using the graphics data included in the Display Set of the Epoch Start type.

23. (New) A recording medium according to Claim 22, wherein

10 the reproduction apparatus includes an object buffer in addition to the plain memory,

the object buffer stores a graphics object obtained by decoding the graphics data included in the Display Set of the Epoch Start type, and

the control data included in the normal case Display Set includes crop information  
15 indicating a part of the graphics object stored in the object buffer where is to be cut out and transferred to the plain memory.

24. (New) A recording medium according to Claim 23, wherein

the control data included in the normal case Display Set includes position information indicating a position within the window where the part cut out from the graphics is  
20 to be displayed, and

the part indicated by the crop information exists at the position indicated by the position information.

25. (New) A reproduction apparatus used for reproducing a digital stream constituted by multiplexing a video stream and a graphics stream, said reproduction apparatus comprising:

a video decoder operable to decode the video stream so as to obtain a moving picture made of a plurality of pictures;

5 a graphics decoder; and

a plane memory used for combining graphics with the pictures, wherein

the graphics stream includes a plurality of Display Sets each being a group of data that constitutes graphics for one screen,

10 a leading Display Set among the plurality of Display Sets is of an Epoch Start type,

the leading Display Set of the Epoch Start type includes graphics data and window information that specifies a window for rendering the graphics therein,

the graphics data represents graphics to be combined with the pictures,

15 the window information indicates a width, a height and a position of the window on a plane memory of a reproduction apparatus that combines graphics with the pictures, and

a Display Set following the leading Display Set is used for rendering graphics within the window.

26. (New) A reproduction apparatus according to Claim 25, wherein

20 the width and the height of the window are determined based on a ratio between a rate of an update of the window performed by the graphics decoder and a frame rate of the pictures determined by the video decoder.

27. (New) A reproduction apparatus according to Claim 26, wherein

the width and the height of the window are set so that a size of the window is  $1/x$  of the plane corresponding to a size of each picture, where  $x$  is a real number indicating the ratio between the rate of the update of the window and the frame rate of the pictures.

5 28. (New) A reproduction apparatus according to Claim 25, wherein

the graphics data included in the leading Display Set of the Epoch Start type is compressed graphics, and

the graphics decoder includes:

a processor operable to decode the compressed graphics; and

10 a control unit operable to perform processing for clearing the window and processing for writing graphics within the window.

29. (New) A reproduction apparatus according to Claim 28, wherein

each Display Set includes control data stored in a packet, to which a decode time stamp and a presentation time stamp are attached,

15 the decode time stamp represents a start time on a reproduction time axis of corresponding Display Set,

the presentation time stamp represents a end time on the reproduction time axis of the corresponding Display Set and an execution start time for displaying graphics based on the Display Set, and

20 the control unit starts the processing for clearing the window at the start time represented by the decode time stamp, and finishes the processing for displaying graphics within the window before the end time represented by the presentation time stamp.

30. (New) A reproduction apparatus according to Claim 29, wherein

the graphics stream includes two or more Display Sets of the Epoch Start type,

and

the control unit activates the window defined by the window information

5 between, on the reproduction time axis, the leading Display Set that is of the Epoch Start type

and another Epoch Start type Display Set that is immediately after the leading Display Set.

31. (New) A reproduction apparatus according to Claim 28, wherein

the reproduction apparatus includes an object buffer in addition to the plain  
memory,

10 the object buffer stores a graphics object obtained by decoding the graphics data  
included in the Display Set of the Epoch Start type, and

if the Display Set following the leading Display Set of the Epoch Start type is a  
normal case Display Set, the Display set following the leading Display Set includes the control  
data, but does not include the graphics data and the window information, and

15 the control unit included in the graphics decoder reads the graphics object from  
the object buffer, and using the read graphics object and based on the control data included in the  
normal case Display Set, performs the processing for writing graphics within the window defined  
by the window information included in the Display Set of the Epoch Start type.

32. (New) A reproduction apparatus according to Claim 31, wherein

the control data included in the normal case Display Set includes crop  
information, and

the control unit cuts out a part of the graphics object stored in the object buffer as

5 indicated by the crop information.

33. (New) A recording method for a recording medium, comprising:

a step of generating application data; and

a step of recording the generated data on the recording medium, wherein

the application data includes a digital stream constituted by multiplexing a video

5 stream and a graphics stream,

the video stream represents a moving picture made of a plurality of pictures,

the graphics stream includes a plurality of Display Sets each being a group of data  
that constitutes graphics for one screen,

a leading Display Set among the plurality of Display Sets is of an Epoch Start  
10 type,

the leading Display Set includes graphics data and window information that  
specifies a window for rendering the graphics therein,

the graphics data represents graphics to be combined with the pictures,

the window information indicates a width, a height and a position of the window  
15 on a plane, the plane being a plane memory of a reproduction apparatus that combines graphics  
with the pictures, and

a Display Set following the leading Display Set is used for rendering graphics  
within the window.



34. (New) A computer program used for reproducing a digital stream constituted by multiplexing a video stream and a graphics stream by having a computer perform video decoding of the video stream to obtain a moving picture made of a plurality of pictures and graphics decoding, wherein

5           the graphics stream includes a plurality of Display Sets each being a group of data that constitutes graphics for one screen,

          a leading Display Set among the plurality of Display Sets is of an Epoch Start type,

          the leading Display Set includes graphics data and window information that  
10       specifies a window for rendering the graphics therein,

          the graphics data represents graphics to be combined with the pictures,

          the window information indicates a width, a height and a position of the window on a plane, the plane being a plane memory of a reproduction apparatus that combines graphics with the pictures, and

15       the computer program instructs the computer to render, within the window defined by the window information, graphics of the leading Display Set and a Display Set following the leading Display.

35. (New) A reproduction method for reproducing a digital stream constituted by multiplexing a video stream and a graphics stream, the reproduction method comprising:

video decoding of the video stream to obtain a moving picture made of a plurality of pictures: and

5 graphics decoding, wherein

the graphics stream includes a plurality of Display Sets each being a group of data that constitutes graphics for one screen,

a leading Display Set among the plurality of Display Sets is of an Epoch Start type,

10 the leading Display Set includes graphics data and window information that specifies a window for rendering the graphics therein,

the graphics data represents graphics to be combined with the pictures,

the window information indicates a width, a height and a position of the window on a plane, the plane being a plane memory of a reproduction apparatus that combines graphics

15 with the pictures, and

the reproduction method renders, within the window defined by the window information, graphics of the leading Display Set and a Display Set following the leading Display.

36. (New) An integrated circuit for processing a digital stream constituted by multiplexing a video stream and a graphics stream, the integrated circuit comprising:

a video decoder operable to decode the video stream so as to obtain a moving picture made of a plurality of pictures;

5 a graphics decoder; and

a plane memory used for combining graphics with the pictures, wherein

the graphics stream includes a plurality of Display Sets each being a group of data that constitutes graphics for one screen,

10 a leading Display Set among the plurality of Display Sets is of an Epoch Start type,

the leading Display Set includes graphics data and window information that specifies a window for rendering the graphics therein,

the graphics data represents graphics to be combined with the pictures,

15 the window information indicates a width, a height and a position of the window on a plane, the plane being a plane memory of a reproduction apparatus that combines graphics with the pictures, and

a Display Set following the leading Display Set is used for rendering graphics within the window.